4th Grade Pacing Module 3 *with Suggested Modifications* **Key**

Optional Lesson

Extension Lesson

Remedial Lesson



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| Standards | | Topic and Objectives | | | | | Instructional Notes |
| **4.OA.1**  **4.OA.2**  **4.MD.3**  4.OA.3 | | A | | Multiplicative Comparison Word Problems  Lesson 1: Investigate and use the formulas for area and perimeter of rectangles.  Lesson 2: Solve multiplicative comparison word problems by applying the area and perimeter formulas.  Lesson 3: Demonstrate understanding of area and perimeter formulas by solving multi-step real world problems. | | | **Days: 3**  **\*\*Lesson 1-** If pacing is a challenge, omit problems 1 and 4 in in concept development. |
| By the end of Topic A, your students should be able to:   * Use formulas to solve problems with area and perimeter * Find the measurement of an unknown lengths and widths * Solve word problems by solving for a missing number   Snapshot Assessment: 4.OA.2 Problem 1 Snapshot Assessment: 4.MD.3 Problems 1&3  Example: Example    Example: | | | | | | | |
| **4.NBT.5**  4.OA.1  4.OA.2  4.NBT.1 | | B | | Multiplication by 10, 100, and 1,000  Lesson 4-5: Interpret and represent patterns when multiplying by 10, 100, and 1,000 in arrays and numerically.  **Combine Lessons 4 and 5**  Lesson 6: Multiply two-digit multiples of 10 by two-digit multiples of 10 with the area model. | | | **Days: 2**  **Lessons 4 &5**: Combine concept development of Lesson 4-5. Use page 2 of both Problem Sets. |
| By the end of Topic B, your students should be able to:   * Multiply a whole number by multiples of 10.   Snapshot Assessment: 4.NBT.1  **Example:**  30 X 10= 23 X 10= 4 X 4,000= | | | | | | | |
| **4.NBT.5**  4.OA.2  4.NBT.1 | C | | Multiplication of up to Four Digits by Single-Digit Numbers  Lesson 7-8: Use place value disks to represent up to four-digit by one-digit multiplication.  Lessons 9–10: Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.  Lesson 11: Connect the area model and the partial products method to the standard algorithm. | | **Days: 3**  **Lessons 7&8:** Combine concept development of these lessons.  \*\*In **Lesson 8**, omit the drawing of models in problem 2 and 4 in the concept development. Instead, have students think about and visualize what they would draw. Also omit the drawing with discs in problem 2 in the problem set.  **\*\*Lesson 9:** This skill is where students should be when looking at the January benchmark.  **\*\*Lesson 10:** This skillis the benchmark level for March. | | |
| By the end of Topic C, your students should be able to:   * Multiply 3 digits by a single digit using partial products, standard algorithm, and/or an area model. (Working toward multiplying 4 digits by 1 digit and 2 digits by 2 digits by March).   Snapshot Assessment: 4.NBT.5  Example: | | | | | | | |
| **4.OA.1**  **4.OA.2**  **4.OA.3**  **4.NBT.5** | D | | Multiplication Word Problems  Lesson 12-13: Use multiplication, addition, or subtraction to solve multi-step word problems, including multiplicative comparisons.  **Combine Lesson 12 & 13**  **1 Day Math Task:** [Comparing Money Raised](http://achievethecore.org/page/615/comparing-money-raised-task)  In this task, it builds meaning for multiplication strategies through word problems. It also shows how multiplication equations model a situation. This is 2 by 1-digit; you could change the number to be a 3 by 1 or a 4 by 1 depending on your students’ needs. | | | **Days: 2**  Use concept development from Lesson 12. With pacing in mind, consider using problems 1 and 4 from Lesson 12 and problems 2 and 3 from Lesson 13. | |
| By the end of Topic D, your students should be able to:   * Solve two step word problems using multiplication. * Solve word problems solving multiplicative comparisons.   **Snapshot Assessment: 4.NBT.5 Problem 1 Snapshot Assessment: 4.OA.1**  **Example: Example:**    *Jonathan has 4 pieces of gum. Alondra has 2 times as many.  How many pieces of gum does Alondra have?* | | | | | | | |

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| *2 Days for Remediation, Enrichment, Mid-Module Assessment*  **Suggested Tasks:** [Krispy Kreme Me](http://gfletchy.com/krispy-kreme-me/) : In this task, students make estimates using multiplication and area to figure out how many doughnuts are in a giant Krispy Kreme box.  [Mid Module Assessment Word Document](https://www.engageny.org/resource/grade-4-mathematics-module-3) Problems 1-5. All problems are relevant to content taught. (1 Day) | | | |
| **4.NBT.6**  4.OA.3 | E | Division of Tens and Ones with Successive Remainders  Lesson 14 Solve division word problems with remainders.  Lesson 15: Understand and solve division problems with a remainder using the array and area models.  Lesson 16: Understand and solve two-digit dividend division problems with a remainder in the ones place by using number disks.  Lesson 17: Represent and solve division problems requiring decomposing a remainder in the tens.  Lesson 18: Find whole number quotients and remainders. \*See instructional notes.  Lesson 19: Explain remainders by using place value understanding and models.  Lessons 20-21: Solve division problems with and without remainders using the area model. \*See instructional notes. | **Days: 4**  **\*\*Lessons 14 & 15**: focus on area and array model **Lesson 16 and 17**: Omit, continue focus on area & array models  **\*\*Lesson 18:** Solve division problems using standard algorithm, not using place value disk models. The place value disk model for division was confusing for students. **Lesson 19:** Omit; imbed discussion of interpreting remainders into other division lessons. |
| By the end of Topic E, your students should be able to:   * Interpret a remainder within division word problems. * Find whole number quotients with 2 digit dividends and 1 digit divisors using array and area models.   **Snapshot Assessment: 4.NBT.6 Snapshot Assessment: 4.OA.3 Problem 2 Example: Example:** | | | |

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| **4.OA.4** | F | Reasoning with Divisibility  Lesson 22: Find factor pairs for numbers to 100 and use understanding of factors to define prime and composite.  Lesson 23: Use division and the associative property to test for factors and observe patterns.  Lesson 24: Determine whether a whole number is a multiple of another number.  Lesson 25: Explore properties of prime and composite numbers to 100 by using multiples. | **Days: 3**  Consider doing a lesson on rules of divisibility to assist students with finding factor pairs. |
| By the end of Topic F, your students should be able to:   * Identify multiple factor pairs within 100 * Identify if a whole number is prime or composite   **Snapshot Assessment: 4.OA.4 Problem 1-4** | | | |
| **4.OA.3**  **4.NBT.6**  4.NBT.1 | G | Division of Thousands, Hundreds, Tens, and Ones  Lesson 26: Divide multiples of 10, 100, and 1,000 by single-digit numbers.\*See instructional notes.  Lesson 27: Represent and solve division problems with up to a three-digit dividend numerically and with number disks requiring decomposing a remainder in the hundreds place.  Lesson 28: Represent and solve three-digit dividend division with divisors of 2, 3, 4, and 5 numerically. \*See instructional notes.  Lesson 29: Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times.  Lesson 30: Solve division problems with a zero in the dividend or with a zero in the quotient.  Lesson 31: Interpret division word problems as either *number of groups unknown* or *group size unknown*.  Lesson 32: Interpret and find whole number quotients and remainders to solve one-step division word problems with larger divisors of 6, 7, 8, and 9.  Lesson 33: Explain the connection of the area model of division to the long division algorithm for three- and four-digit dividends. | **Days: 6**  **\*\*Lessons 26 and 28**: teach concepts without place value disks model.    **Optional Lesson 27**  **Lesson 32** fluency practice is in anticipation of Module 4 geometry concepts. |
| By the end of Topic G, your students should be able to:   * Find whole number quotients with 3 digit dividends and 1 digit divisors using array and area models, working towards standard algorithm and using 4 digit dividends in March. * When solving word problems, students will know the difference between problems where either number of groups is unknown.   **Snapshot Assessment: 4.NBT.6 Problem 2 Snapshot Assessment: 4.OA.3 Problem 4**  **Example: Example:** | | | |
| **4.NBT.5**  4.OA.3  4.MD.3 | H | Multiplication of Two-Digit by Two-Digit Numbers  Lesson 34-35: Multiply two-digit multiples of 10 by two-digit numbers using a place value chart and an area model.  **Combine Lessons 34 & 35**  Lesson 36: Multiply two-digit by two-digit numbers using four partial products.  Lessons 37–38: Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication. | **Days: 4**  **Lessons 34-35**: Combine concept development of Lessons 34-35 or choose one. These have the same objective.    Consider spending 3 days on Lessons and 1 day on practice. |
| By the end of Topic H, your students should be able to:   * Multiple 2 digits by 2 digits by using area model and partial products, working towards mastery of standard algorithm by March.   **Snapshot Assessment: 4.NBT.5 Problem 4**  **Example:** | | | |
| *3 Days for Re-Assessment, Remediation and Enrichment*  **Suggested Tasks:**  Howard County [NBT](https://grade4commoncoremath.wikispaces.hcpss.org/assessing+4.NBT.5).5 Assessment Tasks: These tasks give good practice for multiplying up to 4 digits. From here, you can pick the level of difficulty to meet your students’ needs. Consider doing a carousel model.  Problem Solving Tasks: [The Baker](http://www.insidemathematics.org/assets/common-core-math-tasks/the%20baker.pdf): In this task, students will demonstrate their understanding and make sense of the relationship between multiplication and division skills. \*There is an error on the student work page, white out one of the “bagel” boxes  [Public Schools of North Carolina](http://3-5cctask.ncdpi.wikispaces.net/4.NBT.4-4.NBT.6) provides additional multiplication and division rich tasks students could work on  [Mental Division Strategy](https://www.illustrativemathematics.org/content-standards/4/NBT/B/6/tasks/1774) allows students a chance to analyze strategies.  [End of Module Assessment Word Document](https://www.engageny.org/resource/grade-4-mathematics-module-3) Problems 1-3, 5, 6a-c \*Consider omitting number 4 because of number disks. | | | |
| ***Total Instructional Days: 32*** | | | |

Links Used: Mid Module Remediation Problem Solving Task: <http://gfletchy.com/krispy-kreme-me/>

Mid Module Remediation Problem Solving Task: <http://achievethecore.org/page/615/comparing-money-raised-task>

End of Module Remediation <https://grade4commoncoremath.wikispaces.hcpss.org/assessing+4.NBT.5>

End of Module Remediation [The Baker](http://www.insidemathematics.org/assets/common-core-math-tasks/the%20baker.pdf) <http://www.insidemathematics.org/assets/common-core-math-tasks/the%20baker.pdf>

End of Module Remediation [Public Schools of North Carolina](http://3-5cctask.ncdpi.wikispaces.net/4.NBT.4-4.NBT.6) <http://3-5cctask.ncdpi.wikispaces.net/4.NBT.4-4.NBT.6>

[Mental Division Strategy](https://www.illustrativemathematics.org/content-standards/4/NBT/B/6/tasks/1774) <https://www.illustrativemathematics.org/content-standards/4/NBT/B/6/tasks/1774>